

LISTING OF CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method for distributed optical performance monitoring in a network, comprising:
 - selecting a frequency range based on network traffic protocol and transmission rate;
 - sampling a plurality of points continuously at a frequency;
 - determining computing the an average power of the plurality of points;
 - generating computing a Fast Fourier Transform to obtain a spectrum in frequency domain utilizing a Fast Fourier Transform;
 - generating computing a noise spectrum density from the spectrum and the frequency range; and
 - calculating computing an optical signal noise ratio (OSNR) from the noise spectrum density and the average sampled points, wherein the optical signal noise ratio is used to determine the performance of the network.
2. (Original) The method of Claim 2, further comprising computing an average optical power from a pre-saved calibration table.
3. (Currently Amended) A method for distributed optical performance monitoring in a network, comprising:
 - calculating a noise spectrum density from a spectrum and a frequency range based on network traffic protocol and transmission rate; and
 - calculating computing an optical signal noise ratio (OSNR) from the noise spectrum density and a predetermined calibration data, wherein the optical signal noise ratio is used to ascertain the performance of the network.
4. (Original) The method of Claim 3, prior to the calculating step, further comprising computing a Fast Fourier Transform and obtaining a spectrum in frequency domain.

5. (Original) The method of Claim 4, prior to the computing of the spectrum frequency domain, further comprising computing an average power of the plurality of points.
6. (Original) The method of Claim 5, prior to the computing step of the average power of the plurality of points, further comprising sampling a plurality of points continuously at a frequency.
7. (Cancelled)
8. (Original) The method of Claim 3, wherein the computing of the OSNR is based on the following equation:

$$OSNR = \frac{P_{sig}}{P_{ase}} \frac{B_o}{R}$$

where the symbol “ P_{sig} ” denotes a signal power, the symbol “ P_{ase} ” denotes an Amplified Spontaneous Emission (ASE) power, the symbol “ B_o ” denotes a filter band width, and the symbol “ R ” denotes a wavelength resolution.

9. – 14. (Cancelled)

Please add the following new claim:

15. (New) A method of utilizing a performance monitor cell to monitor a channel in a multiplexer, comprising:
- tapping a portion of a signal from the channel;
 - sampling a plurality of points continuously at a frequency;
 - determining an average power of the plurality of points;
 - calculating a noise power density of the plurality of points, wherein the noise power density is calculated by utilizing a spectrum in a frequency domain and a selected frequency range based on traffic protocol and transmission rate; and

determining an optical signal noise ratio (OSNR) from the noise spectrum density and the average sampled points, wherein the optical signal noise ratio is used to ascertain the performance of the multiplexer .